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# Why Would They Try? Motivation and Motivating in Low-Stakes Information Skills Testing

Jeanne M. Brown, Professor and Assessment Librarian, University of Nevada, Las Vegas.

Email: [jeanne.brown@unlv.edu](mailto:jeanne.brown@unlv.edu)

Carrie Gaxiola, Libraries Statistician, University of Nevada, Las Vegas.

Email: [carrie.gaxiola@unlv.edu](mailto:carrie.gaxiola@unlv.edu)

## Abstract

In 2008 the University of Nevada Las Vegas (UNLV) University Libraries piloted the Educational Testing Service's standardised test of information, communication, and technology (ICT) skills (*iSkills*) in spring and autumn 2008. In the course of administering the test we explored motivational strategies, a critical component in low-stakes, low-personal-consequences testing. Motivational strategies included providing feedback on test performance, highlighting the value of the test for the individual student, and appealing to the student's willingness to improve the overall performance of the institution. We addressed ways to motivate students in order to enhance their level of participation in and performance on the test. As the use of standardised testing to benchmark student information skills is increasing within the information literacy community, it is vital to address these motivational aspects to ensure the generation of reliable data. This article describes the strategies and language the University Libraries used to convey value and stimulate interest; it also provides feedback from test-takers on why they tried to do their best on the test.

## Keywords

Standardised testing; low-stakes testing; motivation; information skills testing; *iSkills*

## 1. Introduction

Libraries in higher education are increasingly focused on their educational role to support and foster student learning. Not only are they offering the traditional stand-alone sessions and credit courses, they are also collaborating with faculty and leading campus efforts to embed information literacy at all levels of the curriculum. As libraries change and as they devote more resources to instruction, the campus landscape is also changing, with increasing emphasis on accountability. For example, in 2007 the Voluntary System of Accountability and its private schools counterpart the University and College Accountability Network were established in the United States to address the need to provide the education consumer with data and information designed to facilitate comparison among institutions. Responses to the call for accountability include testing performance on learning outcomes through standardised tests.

The Educational Testing Service's *iSkills* instrument discussed in this paper is the most recent entry into the field of standardised tests of information skills, following the Standardized Assessment of Information Literacy Skills (SAILS) from Kent State University and the Information Literacy Test (ILT) from James Madison University. All of these initiatives were developed during the years 2001-2006, with SAILS starting in 2001 (Kent State University 2008), the ILT in 2002 (Cameron, Wise and Lottridge 2007) and *iSkills* in 2003 (Brasley 2006). In addition, these initiatives can be considered low-stakes tests if there is little or no personal consequence for the test-taker.

Cole, Bergin, and Whittaker (2008) note that a test may be low-stakes for an individual but high-stakes for an institution. For the individual, test results on general education tests are low-stakes as they will not typically impact a course grade or prevent the individual from following a chosen major. For the institution on the other hand, the stakes may be much higher as results may be used for such critical tasks as curricula revision or to demonstrate the value of the institution's educational programme. The main institutional concern is that the individual perform well on a standardised low-stakes test to enable the institution to use the results with confidence as a way of restructuring its curricular developments or as a marketing tool for its courses.

In a test-taking situation where the test results have little consequence for the test-taker, motivation becomes a key element in the performance of the individual. This article looks at the issue of motivation in the specific context of information skills testing using the *iSkills* standardised scenario-based instrument. The authors of this paper, who were also responsible for the execution of this study at the University of Nevada, Las Vegas in their capacity as the assessment team for the University Libraries, provide a detailed account of the efforts made to ensure the participation of the students, and the methods and language used to encourage students to perform to the best of their abilities. This is complemented by an examination of the feedback provided by most students explaining the reasons for trying to do well on the test.

## 2. Literature review

In this section we examine the literature on motivation related to achievement and learning, as well as the literature on motivation within testing conditions. Wigfield and Eccles (2000) discuss the expectancy-value theory as a "long-standing perspective on motivation" (p. 68) and argue that motivation stems from how well someone expects to do, and how much they value an activity. Bong and Clark (1999) explore the differences between the individual's perception of their competence on a task (self-efficacy) and the broader construct of self-concept, which includes affective as well as cognitive responses. They note that the constructs of self-efficacy and self-concept have been shown to "explain students' motivation and achievement" (Bong and Clark 1999, p. 139). Self-concept refers to a general perception of individual worth, and is therefore less useful in predicting how someone will perform on a specific task (Bong and Clark 1999, p. 151) although it may provide insight into behavior.

Kauffman and Husman (2004) identify several elements that can have a positive impact on motivation, including perception of task usefulness, the intrinsic enjoyment of using valued skills, and the possibility of long-term benefit. Schunk (1991) suggests that student perception of

making progress in learning and furthering specific short-term performance goals are motivating, while Ainley (2004) and Seifert and Sutton (2008) distinguish between situational interests (triggered temporarily by the immediate situation) and personal ones (permanent preferences of the student).

Seifert and Sutton (2008) provide a framework in which to view personal learning goals. Each of their categories suggests a different response to motivating students, so that for example for students with mastery goals who primarily wish to learn, a test would most effectively (from a motivational standpoint) be presented as a learning activity. On the other hand, students with performance goals wish to appear successful and therefore access to an individual report that would give their percentile rank in comparison to a peer group would potentially be motivating. Seifert and Sutton (2008) also identify a wish to avoid failure as a source of motivation. For students experiencing “failure-avoidance”, at least a modest expectation of success is an important motivating factor.

Motivation as a component in test performance emerges in many studies of low-stakes testing. The relationship between lack of test consequence (low stakes) and lack of students’ effort is well-documented (Wise, Wise and Bhola 2006, p. 66; Cole and Bergin 2005, p. 2). Many of those seeking to address this issue turn to motivation as the key to increasing effort. Wise, Wise, and Bhola (2006) suggest ways of dealing with the issue such as “increasing students’ perception of assessment’s value for them” (p. 81) and providing test feedback. These two suggestions were used by the authors of this paper to generate specific strategies, described in more detail below, including highlighting how a test could increase student knowledge of their skill levels and providing the student with performance feedback.

Wise and DeMars (2005) offer an example of increasing the stakes by making a test a requirement for freshmen to achieve sophomore standing. Another approach to motivation is to provide incentives, although Wise, Wise, Bhola (2006) admit that adopting this approach to improve performance on low-stakes tests is seen as problematic. Wise and DeMars point to two different types of research, namely studies showing the variable impact of incentives depending on population (e.g. 8<sup>th</sup> graders versus 12<sup>th</sup> graders), while other studies demonstrate that financial incentives do not produce any difference in student performance compared to the performance of those students who do not receive a financial incentive. They also mention the perception that paying students for performance may be considered as “unseemly” in an academic environment (Wise and DeMars 2005, p.10). In other words, students should willingly engage in the process of learning without the additional incentive of a financial reward.

Some studies examine motivation in the context of information skills standardised testing. Researchers at James Madison University have used the James Madison Information Literacy Test (ILT) instrument to explore the degree to which motivation affects test performance. In addition to identifying statistical indicators of low motivation, such as response time per item (Wise and Kong 2005), many suggest possible strategies to improve performance including highlighting the value of the test, performance feedback (Wise 2004; Wise 2009), and making the test more interesting (Wise and DeMars 2005). These strategies relate to the literature cited

earlier on achievement and learning, which points to the effectiveness of appealing to personal performance and learning goals.

Gross and Latham (2007) used the ILT with incoming freshmen to investigate library anxiety and skill level. Motivation was not the focus of their study, however they did report elements that may have contributed to increasing motivation. These authors offered incentives for both participation and performance such as a gift certificate and an opportunity to be entered into a lottery draw for a more substantial incentive if the scores were in the top 15%. In addition they had all participants view a video which “introduced the researchers, explained the importance of the study, and encouraged participants to do their best” (Gross and Latham 2007, p. 340). These authors did not report on the language they used and it is therefore not possible to speculate on the motivational elements they may have touched on. These motivational elements include the specific points used to encourage participants, the areas of the test’s importance they chose to emphasise, and the components of the test highlighted to appeal to a student’s personal goals.

### **3. Background context for *iSkills* provision**

*iSkills*, a standardised test designed specifically to assess information, communication and technology literacy (ICT literacy), has the dual advantage of being a product of the well-known and respected Educational Testing Service (ETS) and of being an authentic scenario-based assessment rather than a multiple-choice test. Robust test reports were another factor in the selection of *iSkills* by the University Libraries at the University of Nevada. ETS supplied individual student performance reports to each student and to the institution, as well as reports for the institution, which compared the performance of the institution’s group to performance of a reference group from 4-year colleges.

ETS organises the proficiencies assessed in *iSkills* into seven categories: define, access, manage, integrate, evaluate, create, and communicate. Students complete multi-step tasks that call on one or more of the seven proficiencies. ETS developed the test drawing on the five Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education and collaborating with several institutions in the design, testing, and modification of the instrument (Katz 2007). The University Libraries felt that *iSkills* was a good fit for campus assessment goals since it was geared to evaluate skill levels across multiple groups and independent of library class instruction. For example, *iSkills* could be used to benchmark information literacy levels of incoming freshmen, or determine the information literacy level of exiting seniors. It is not designed to test the content of one course or class session.

The *iSkills* test is administered online. It takes 75 minutes and consists of 15 tasks, 14 of which are short. It uses simulated software applications, which are modeled on a range of software including search engines, email, word processing, spreadsheet, and databases. The scenarios range in nature from academic to personal and business needs. Students are expected to use technology as a tool and in addition they must apply critical thinking and information skills to

complete the tasks. It should be noted that towards the end of 2009, the Educational Testing Service entered into an agreement with Certiport, a company with experience in providing online testing. Subsequent to the agreement, the name of the instrument was changed to *iCritical Thinking* and the test was reduced to 60 minutes (Certiport 2010).

A number of institutions have administered *iSkills*, and of these, the California State universities have actively disseminated their experiences, and the report by Somerville et al. (2007) highlights problems of getting students to take the *iSkills* test at several California State institutions.

At California State University (CSU) Northridge, librarians targeted a random sample of over 800 students with a goal of 241 completed tests. Student contact was initially attempted via telephone, followed by email contact. These communication methods proved ineffective mainly owing to incorrect information about phone numbers and email addresses. Students who were reached expressed disinterest despite being offered some financial incentive, including a \$25 online gift certificate. The librarians at Northridge ultimately used a convenience-sample plan that involved multiple marketing efforts, as a result over 300 students signed up for the test, but only 137 attended and completed *iSkills*.

Cal Poly San Luis Obispo, another CSU campus, reached its goal of 250 randomly selected test takers, although not without some difficulty. Initially, a random sample of first-year students living on-campus were invited to take the test. Their recruitment efforts included marketing materials, a website registration system, and an email from the university's President. Sign-ups were slow. In order to improve participation, other methods of recruitment were implemented including: incentives; the involvement of dormitory Resident Assistants who urged students to help the university reach its goal of 250 test-takers; and a second round of randomly generated invitations. Students were also allowed to "drop-in" to take *iSkills*.

Since 2007, the University of Nevada, Las Vegas (UNLV) has begun to identify and formulate universal learning outcomes, also known as general education outcomes (UNLV Committee on Culture of Teaching and Learning 2008) and librarians from the University Libraries have been active participants in the task force charged with describing these learning outcomes. To address information and critical thinking skills learning outcomes and to pursue the strategic goals related to advancing information literacy, towards the end of 2007 the University Libraries proposed a pilot administration of the ETS *iSkills* instrument for the following spring. This initiative rested on the belief that establishing baseline skill levels was a necessary step in implementing an information literacy development agenda. In spring 2008, the University Libraries' Assessment Librarian and staff administered the test to students in a freshman science class, and by autumn 2008 the following populations were tested: science students; students enrolled in an honours course; and library student workers, generating 446 valid tests which provide the data analysed in this paper.

## 4. University of Nevada's experience of *iSkills*

Judging from the difficulties experienced by the California State universities in recruiting enough participants for their *iSkills* implementation, UNLV University Libraries determined that simply asking for volunteers would not produce a valid pilot. Instead the Dean of Libraries, Patricia Iannuzzi, identified colleges that would welcome information, communication and technology (ICT) testing by enlisting the cooperation of the Dean of the College of Sciences and the Dean of the Honours College.

The University Libraries have an ongoing collaboration with the College of Sciences, having helped with the development of Science 101 course (Introduction to Scientific Studies). As a result, the College of Sciences identified students in Science 101 as the target group. The Dean of the Honours College, which attracts many students in the sciences, was interested in comparing performance of the science and the honours populations to test the hypothesis that science students entered in the honours programme would perform better than the general population of science students. For the Honours College, students in Honours 105 (Honours Orientation Seminar) were selected.

A third population was involved in the pilot. The Dean of Libraries agreed that the University Libraries' student workers would complete *iSkills*. One of the University Libraries' goals is to foster student employees' information literacy competencies as a result of their work in the library. In this case, *iSkills* would enable the University Libraries to benchmark their ICT literacy and develop IL training workshops to address gaps identified in testing.

Identifying the populations to be part of the testing was only one step in addressing participation. Students had to take *iSkills* outside of class time since *iSkills* is too long to be administered during a class period. This was achieved through a number of strategies, including the scheduling of multiple sessions, the provision of printed appointment-sheets for each student with the time and place of their testing session, and working with Honours instructors and library student-worker supervisors to provide multiple reminders of the sessions.

To further encourage participation, additional elements were incorporated into the testing protocol. The library student workers were allowed to take the test on work time, essentially this meant that they were being paid to take the test. Honours 105 instructors assigned a reflective paper exercise based on the students' *iSkills* experience, ensuring that students would have to take the test or face the consequence of failing to complete an assignment. SCI 101 instructors offered participation points to students who volunteered to take the test, although these points accounted for only 5% of the total grade, and therefore may have had limited appeal (e.g. those on the cusp of a better grade). Participation rates were substantially higher for Honours students and library student workers (94% and 93% compared to 64% for the science population), possibly reflecting the ineffectiveness of participation points as a motivator.

During the administration of *iSkills* in 2008, the authors of this paper used many of the motivational techniques mentioned in the literature review section that are linked to increasing

student test effort. We also used a variety of delivery methods to present what we hoped would be persuasive motivational language, including flyers, presentations, and web information along with a web sign up form. We felt that for students to absorb information about the test and its benefits and qualities, it was important that the points thought to relate to motivation be made several times, and that they be succinct, specific, and attention-getting. As a result, we emphasised the following points: students would get feedback on their performance; the test was valuable for student learning; results would help the university improve instruction; and the test would be interesting to take in the same way a game is interesting to play.

In terms of generating feedback on student performance, we also stressed that the test offers a number of benefits. First, it gives a total score assessing the students' overall performance; secondly, it provides feedback on the seven skill areas and calculates the percentile of performance by each student based on where their score fell in relation to the scores of their peers. The score reports were provided directly to the student from the test provider, the Educational Testing Service (ETS), hence in our materials we stressed not only the nature of the feedback ETS would provide but also the speed of its delivery.

Highlighting the value of the test to the individual is another motivational strategy the authors adopted. We hypothesised that students would consider accomplishing their learning goals as valuable, and so we presented the skills being assessed as important for the students' short- and long-term learning goals. We emphasised *iSkills* as a test that could help them identify their weaknesses in the seven skill areas of define, assess, evaluate, communicate, manage, integrate, and create, and allow them to set individual goals for improvement. We also stressed that being aware of their skill levels gave them a long-term advantage and made them more able to compete for jobs after graduation, thereby stressing the importance of ICT skills in the global job market as these skills are in high demand in a technology rich and dependent society. Moreover, we stressed the importance of using *iSkills* scores on their resumes to provide a comprehensive portrait of their competent use of information and within a 'real world' setting.

Encouraging an expectation of doing well is especially important in motivating students who fear failure. Assuming that some portion of the population might fall into this category, the authors sought to project an expectation of doing well by emphasising both the technology and scenario features of the test. Because the students being tested were for the most part 18-20-year-old students who were raised in a technology-saturated world, we emphasised not only the *importance* of the technology skills, as mentioned above, but also stressed that technology was the element that made this test different compared with other tests they may have taken. In other words, the *iSkills* test was described as being more relevant and fostering greater reflection than the standard multiple-choice test since *iSkills* would focus on everyday competences such as organising emails and searching the Internet in an interactive and engaging manner.

Lastly, we appealed to the students' willingness to help improve the performance of their institution, termed "academic citizenship" by Wise (2009, p. 155), by suggesting that the test results could enhance instruction at UNLV. This point was combined, for the science students, with language designed to appeal to their self-view as scientists in the making interested in a

world of experimentation and developing new knowledge, since the data received from the test would enable UNLV to benchmark skills and improve curriculum and instruction.

We did not use financial incentives as a means of improving test performance as the literature indicated that these are not effective. Non-financial incentives were, however, incorporated into the pilot. For example, Honours students and library student workers received repeated encouragement to take the test from instructors and supervisors. This could have raised the stakes somewhat since pleasing an instructor or supervisor could have personal consequences or be of personal importance to the student.

## 5. Student feedback on their efforts

Students had several ways of providing feedback on whether they gave the test their best effort and why. The test question that asked for this feedback provided a series of options listing the reasons why the test-taker might intend to do his/her best (listed below) or select the 'no answer' option. Options included:

- a) I appreciate the importance of *iSkills* scores in helping UNLV improve curriculum,
- b) I understand the importance of *iSkills* scores in helping me to evaluate my strengths and weaknesses in ICT skills,
- c) I will use my scores on my resume,
- d) I am a new college student and want to participate in anything that will contribute to my academic success,
- e) I am taking *iSkills* for participation points.

The importance of the test score in helping to evaluate strengths and weaknesses was the most frequently selected category. 273 respondents chose this as their motivation. 195 students chose the long-term benefit option of helping the institution (UNLV) improve instruction and curriculum. 148 chose the option of using the score on a resume. 148 also chose the option of contributing to the individual's academic success. 61 chose participation points or did not answer.

Reported motivation differed somewhat by group and semester. The most interesting variation was the low percentage of Honours students selecting the option of improving instruction at UNLV. Not all possible motivational elements were listed, such as "encouragement from my instructor," nor do all the options apply to all three groups, for example, unlike science students, Honours or the library student-workers were not given any participation points to complete the *iSkills* test. This reflects both a changing awareness by the authors on what might impact motivation, and the fact that some approaches were specific to a particular group. Student workers for instance, since they are not enrolled in a course, would not be subject to motivational elements tied to course work or a course grade.

**Figure 1: Library-added test question – top two motivational items**

	SCI 101 spring (75 test-takers)	SCI 101 autumn (172 test-takers)	Honours (103 test-takers)	Library students (96 test-takers)
Evaluate my ICT skills	36 (48%)	111 (65%)	61 (59%)	65 (68%)
Help UNLV improve	38 (51%)	71 (41%)	24 (23%)	62 (65%)

Percentages in Figure 1 indicate the percent of the population choosing that option. Since multiple options or 'no option' could be selected, percentages do not add up to 100%.

A second method for obtaining student feedback was a post-test survey administered in the autumn to students immediately following their *iSkills* session. The post-test survey was optional and despite this 71% (262 of the 371 students who took the test in the autumn) completed the survey. The question on the post-test survey that related to motivation was: "Did you try your best? And why or why not?" Responses included Yes/No/Somewhat, as well as a space for comments. 234 of the 262 (89%) completing the survey indicated that they tried their best, while 17 (6%) selected the "somewhat" option, implying that their attempt was half-hearted and four percent (11) of the respondents to the survey said they did not try their best. Comments, analysed below, provided insight into why respondents gave their best effort or failed to do so.

The Honours group had the highest rate of comments: 90% of Honours students who completed the post-test survey generated qualitative feedback. The rate of comments from library and SCI 101 students was somewhat lower, 80% and 78% respectively. This may be a result of the Honours reflective-paper assignment encouraging students to evaluate the test itself, though any correlation between the level of reflection, the quality of the language used and the assignment is entirely speculative on our part.

Many comments fit into the personal-skills-improvement and helping-the-institution categories included in the test question and noted earlier in this section. The motivational language we used to emphasise the importance of *iSkills* in identifying strengths and weaknesses in order to achieve long-term and short-term academic and work goals seems to have resonated with almost a third of the post-test respondents. Comments ranged from the general (e.g. "*I did my best because I want to see what areas I need to improve*") to the specific (e.g. "*I wanted to correctly assess my computer skills*"). The relationship to academic skills is seen in comments looking forward to post-freshman experiences such as "*I would like to see if I will improve in the upcoming years.*" Comments also specifically mentioned the importance of the test to work skills as some students commented on the applicability of the test to their "*future career*" and its relevance to "*real life.*"

Fewer comments reflected the language we used to stress the value of the test to the institution. Feedback belonging to the category of helping the institution included language about obtaining data to benchmark skill levels, as illustrated by the following comment "*things like this are provided by universities to see where their students stand when it comes to these skills.*"

Comments also reflected a general sense that doing well on the test would be helpful to the institution “*I know it’s to help the university so I tried*” and “*I feel this is an important study for the university.*” One student reflected a comparatively sophisticated understanding of the importance of test scores to the university, stating that he had done his best “*because not doing so would alter the statistics.*” Indeed this is one of the reasons why motivation is so critical since if students do not perform well the statistical data generated by the outcome of the test would show a low level of performance overall that would reflect badly on the university.

Post-test survey comments also suggested two additional categories that had an impact on students’ efforts, namely the desire to do one’s best, and situational elements such as physical comfort or discomfort. The largest percentage of comments appeared in the ‘desire to do one’s best’ category, which the authors had neither anticipated nor stressed in any of the materials presenting the test to the students. Several distinct reasons for doing one’s best were reflected in the comments. One is personal pride in one’s own achievements: “*I try my best in everything.*” Another is peer-based competition “*I challenged my friend to see who would score higher*” or a self-generated one “*I wanted to challenge myself.*” Some comments indicated amazement that trying to do well would even be in question, such as “*Why wouldn’t I?*” and “*No point in not trying.*” Other comments related to the students’ desire to perform well “*I wanted to get the best score possible*”. Lastly, some comments reflect a strong value assigned to personal time, specifically the time necessary to take the test as shown by the following comment “*Yes to make the most out of my time.*” The language comes from the students, not from our attempts to encourage motivation to perform well in the test and in future we are planning to use this language to communicate more effectively with the students when promoting other initiatives.

**Figure 2: Post-test survey comments**

	SCI 101 autumn (87 commenting)	Honours (72 commenting)	Library students (66 commenting)
My skills improvement	28 (32%)	19 (26%)	17 (26%)
Help UNLV improve	9 (10%)	7 (10%)	6 ( 9%)
Desire to do my best	38 (44%)	30 (42%)	31 (47%)
Situational	14 (16%)	13 (18%)	10 (15%)

Percentages on Figure 2 reflect the percentage of the group supplying comments in a particular category.

The last category, shown in Figure 2 above, situational elements, could certainly affect whether the student did their best, although it would not constitute motivation or lack of motivation. For instance, if one is ill, one may want to do well but nonetheless may not perform well. Most comments in the situational category illustrate that students were not able to do their best because they were “*in a hurry,*” or “*sick,*” or “*really tired*” or so “*hungry, I lost some concentration*”. By contrast, some indicated that they did well because they were “*fresh*”. Finally, a student’s preference for spending time studying rather than taking the test suggests that the arguments concerning the academic importance of the test, both to the individual and the institution, did not come before this respondent’s need to study.

## 6. Limitations of the study and areas for future research

One limitation of the study stems from its evolving nature over two semesters. The post-test survey was administered in the autumn but not in the spring. This limited our ability to compare the student feedback results across the two semesters. The research protocol we designed posed another limitation. Given that the surveys and reflective paper feedback were anonymous, we were unable to correlate that feedback with test scores. In future studies, we aim to develop a method of ensuring anonymity while linking tests and surveys from the same individual.

In future we also intend to explore the following areas:

- linking motivational strategies to higher scores;
- exploring the impact of related assignments such as the Honours reflective paper assignment on both performance and willingness to comment on the test experience;
- expanding the nature of the populations, for instance capstone students and students in need of remedial help;
- investigating the role of self-concept in motivation for distinct populations such as Honours as opposed to students with low high school grade averages;
- studying motivational efforts that affect performance in classroom testing of information skills, as well as performance in standardised tests;
- investigating the role the instructor plays in motivation;
- determining the impact of focusing student attention on motivation.

## 7. Conclusion

In order to ensure the credibility of the *iSkills* test results, we needed to identify the level of student effort while undertaking the test. Motivation is a key factor in determining effort and performance on the low-stakes tests that are often used to measure general education skills, including information literacy skills. For this reason, we employed multiple motivation strategies in our pilot *iSkills* administration. The validity of this approach was reinforced when the test results were presented to the university's Council of Deans. The first concern the Deans expressed was whether the results were reliable and action-worthy, given the tendency of students to perform at a low level on low-stakes tests. Our efforts and data on motivation for the *iSkills* administration reassured them that the motivation factor had been seriously considered and addressed.

Motivation is important in two distinct realms: participation and performance. As the California State universities' experience showed, getting students to take the test can be difficult and as a result the University Libraries' pilot relied heavily on campus collaborations to encourage students to take the test. For example, instructors introduced elements such as participation points and class assignments. Repeated reminders about signing up for the test from Honours instructors and library supervisors made it clear that students taking the test was important to the people the students saw as authority figures, although this might not have affected performance since students were aware that scores would not be provided to instructors or supervisors.

In a low-stakes testing context, taking the test does not ensure doing well on the test. Motivating to perform well was the more difficult challenge. Judging from student feedback, it would seem that the desire to improve and the need to do one's best are strong sources of motivation, while other motivating factors included assisting the university in its efforts to improve instruction in information skills and being able to use the test score on a resume. Motivation did however vary for the three populations. Honours students for instance were less persuaded by the idea of assisting the institution to improve than the other two populations. Students' feedback also pointed out that, in addition to motivation, physical conditions can impact performance as well.

High motivation does not necessarily result in a high score, although low motivation can produce low scores. Of the students tested at UNLV in 2008, 65% passed, this is considerably higher than the average pass rate of 39% in 2007 given by the National ICT Literacy Policy Panel (Tannenbaum and Katz 2008). This would seem to indicate some level of success for our motivational efforts, though the data needed to correlate motivation and scores could not be generated for this phase of the study. It could also indicate a higher level of information skills among UNLV students, or among the specific UNLV populations tested.

This pilot administration of *iSkills* to more than 400 students enabled us to test recruitment strategies, motivating language, and possible motivational strategies in an information skills standardised testing context. It also provided us with valuable feedback into what resonates with our students in terms of motivation. Some of the motivational elements identified in the literature, and emphasised in the materials we employed to market the test to students, were reflected in their explanation as to why they did their best. For example, social responsibility, defined in this case as an opportunity to help the university improve, was a motivating factor for some students, while others identified personal pride and peer-based competition as strong motivators. This study has been invaluable in the way it has generated techniques and motivational language that will be used in future administrations of *iSkills* tests.

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